

REMARKS

Please reconsider the application in view of the above amendments and the following remarks. Applicant thanks the Examiner for carefully considering this application.

Disposition of Claims

Claims 1-7 are pending in this application. Claim 1 is independent. The remaining claims 2-7 depend directly from claim 1.

Rejections under 35 U.S.C. § 103

Claims 1-5 and 7 stand rejected under 35 U.S.C. § 103 as obvious over U.S. Patent No. 5,584,120 (Roberts). Claim 1 has been amended in this reply in view of rejections to Claims 1-7. In view of the amendment, Applicant believes this rejection to be moot. However, to the extent that this rejection may still apply, the rejection is respectfully traversed.

Roberts relates to a method of manufacturing printed circuits. Roberts fails to teach or suggest the layer-to-layer connection of the present invention as now recited in the claims. Specifically, Roberts teaches that a network with a substrate (2 of Figure 1 and Figure 2, column 7, lines 7-8) that has a plurality of flat surfaces (see, for example, two flat surfaces both labeled 15 in Figures 5 and 11, and discussed as "circuit features" at column 8, line 45). The plurality of flat surfaces (15 Figures 5 and 11) are formed at different levels *horizontally* (lengthwise), and an inclined surface extends between these two flat surfaces (both 15 Figures 5 and 11), and a first conductive layer that includes a conductive foil (8 in Figure 4, Figure 8, and Figure 10, column 7, line 34) formed on one of the flat surfaces (15) by the conductive layer (8) is connected to a second conductive layer (8) formed on the other flat surface (15) by the conductive layer (8) on

the inclined surface extending between these flat surfaces (15), as shown, for example, in Figure 11.

Roberts fails to teach or suggest that an electrical connection is made between conductive layers of different circuit layers of the multilayer circuit, which are separated from each other in the thickness direction, *vertically* by an *insulation layer*. Regarding the layer-to-layer connection of the present invention, a cross-sectional view of an embodiment is shown in Figure 6. As can be seen in the embodiment shown in Figure 6, an electrical connection is made between conductive layers (20, 22, 24, and 26) extending in parallel with respect to different, *vertically-oriented*, circuit layers. "Circuit layers" corresponds to the phrase "a plurality of circuit layers, each of which is provided with a conductive layer having a required circuit pattern and an insulation layer formed on said conductive layer by film formation" as recited claim 1. The electrical connection is made by a *vertical* portion of the conductive layer (20) formed on a *vertical* surface of the substrate (10). This corresponds to the phrase "a second conductive layer formed on a second surface of the substrate" recited in claim 1. Thus, the layer-to-layer connection of the claimed invention means that the conductive layer of one of the circuit layers is electrically connected to the conductive layer of another one of the circuit layers by the second conductive layer formed on the second surface of the substrate.

Accordingly, to more clearly define this feature of the present invention, claim 1 has been amended to replace the phrase "a layer-to-layer connection of said multilayer circuit" with "said conductive layer of one of said circuit layers is electrically connected to said conductive layer of another one of said circuit layers." In view of this amendment and the above remarks, Roberts fails to show or suggest the present invention as recited in amended claim 1. Thus, claim 1 as amended is patentable over Roberts. Claims 2-5 and 7 depend directly from claim 1

and thus are allowable for at least the same reasons. Accordingly, withdrawal of this rejection is respectfully requested.

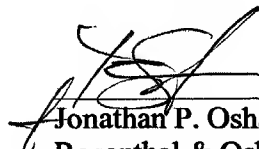
Claim 6 stands rejected under 35 U.S.C. § 103 as obvious over Roberts in view of U.S. Patent No. 5,956,609 (Lee). Claim 6 depends directly from claim 1. Claim 1 has been amended by this reply. In view of this amendment, this rejection is considered moot. However, to the extent that the rejection may still apply, this rejection is respectfully traversed.

Claim 1 is patentable over Roberts for at least the reasons stated above. Lee fails to provide that which Roberts lacks with respect to claim 1. Claim 6 depends directly from claim 1 and thus is patentable for at least the same reasons. Accordingly, withdrawal of this rejection is respectfully requested.

Applicant believes this reply to be fully responsive to all outstanding issues and place this application in condition for allowance. If this belief is incorrect, or other issues arise, do not hesitate to contact the undersigned or his associates at the telephone number listed below. Please apply any charges not covered, or any credits, to Deposit Account 50-0591 (Reference Number 11411.002001).

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Respectfully submitted,

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Marked-Up Version of Claims

1. (Amended) A multilayer circuit board, comprising:

a substrate having a first surface and a second surface extending from an end of the first surface at a required angle relative to the first surface;

a multilayer circuit formed on the first surface of said substrate and composed of a plurality of circuit layers, each of which is provided with a conductive layer having a required circuit pattern and an insulation layer formed on said conductive layer by film formation;

a second conductive layer formed on the second surface of said substrate, by which [a layer-to-layer connection of said multilayer circuit is made] said conductive layer of one of said circuit layers is electrically connected to said conductive layer of another one of said circuit layers.